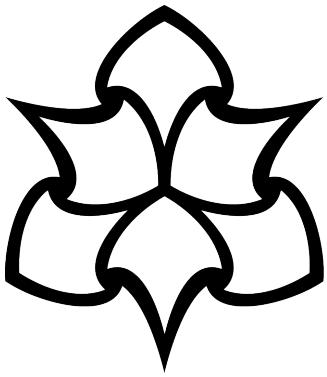

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Moving with the folds of time and place: exploring gut reactions in speculative transdisciplinary research with teen girls' in a post-industrial community

Gabrielle Ivinson and Emma Renold

Introduction

The chapter focuses on a gut holding mannerism, observed in an improvised movement workshop with teen girls living in an ex-industrial town in south Wales (UK), as a vantage point from which to explore what more the gesture might be telling us. A transdisciplinary approach enables a more expansive grasp on the complexity of being, doing and having and how these arise in intra-connections with the place, material world and through intergenerational transmissions. The gut is a series of folds of biological matter. Drawing on Gilles Deleuze's (1993) readings of Gottfried Wilhelm Leibniz' concept of 'Fold' as a differential, we speculatively explore scalar orders of time, space and matter. By taking the gut holding mannerism as a fulcrum we imagine folds that become larger and larger expanding into space, place and the universe, or become smaller and smaller by focussing on corporeal-movement, psycho-dynamic experiences and the 'thinking gut' (Elizabeth Wilson, 2015). We question what more the gut mannerism can illuminate, what more girls can be, and what more ex-mining communities might become.

Staring with movement folds

The school hall worlds bodies in specific ways (Erin Manning 2016). On the morning of our first dance workshop, girls huddled or stood in tight knots in a secondary (high) school hall, located

in an ex-coal mining town in south Wales, UK. None of them were trained dancers and many had never participated in a movement workshop that did not focus on recognisable moves and routines (e.g. 'street dance'). Hair was tugged; 'T' shirts were repeatedly pulled over bottoms and shoulders tensed. These awkward poses gave pathic knowledge communicated affectively (Guattari, 2006, 25). We read them as possible feelings of being exposed, self-conscious, wary, bored, relieved, tired and maybe excited. Yet the pose that arrested our attention and remained with us was a gut-cradling gesture. Arms were folded tightly across stomachs in a self-hug. The gut-cradling mannerism instantaneously betrayed protecting, hiding, hugging and comforting. This mannerism seemed to fold the body into the body. The feel of skin on skin seemed to act as a physical-corporeal holding as well as psychological 'second skin' (Ester Bick, 1987, cited in Manning, 2013: 1). Choreographer, Jên Angharad guided us into new socio-corporeal-embodied patternings as part of a series of dance workshops. Girls reverted to the self-holding mannerism in the intervals between the movement exercises. We joined the girls in exercises that encouraged us to stretch, run, crouch and move in unfamiliar ways. As they moved they started to open up physically and psychically.

This tiny corporeal fold inspired this chapter where we unfold speculations on the entanglements of place, gender and bodies. We ask: Can a mannerism provide insight into how girls become in the present while entangled with the distinctive history of a mining community's highs and lows, its closely guarded values and hidden violence? Opening out the enquiry further we ask: What are the new geo-psychical formations of late capitalism in post-industrial societies?

The gut holding mannerism provides a vantage point from which to explore what more might come into view. And to capture that 'more', we necessarily take a transdisciplinary approach.

This is because transdisciplinary thinking and analysis enables us to go beyond a uni-dimensional view of the body and the subject. It enables a more expansive grasp on the complexity of being, doing and having and how these arise through our intra-connections with the material worlds in which they are lived. Thus, following an introduction to the concept of mannerism, the paper follows three speculative journeys. The first starts with the pleats of the earth that created the geology of the coal beds in south Wales across vast scales of space and time. The second unfolds issues around the em/bodying of gender. The third speculates about folds of the gut as a thinking organ; folds of anatomy, phylogenesis, species and survival. We use these transdisciplinary speculative forays to break hegemonic discourses that pathologise teen girls living in post-industrial places (Renold and Ivinson, 2015) and to re-imagine their lives and communities differently as part of an on-going exploration of the proto-politics of becoming (Renold and Ivinson 2019).

Extensive and intensive pleats in/of movement

The gut holding mannerism seemed to hold fragile bodies together by providing a corporeal fold of support. We approach the concept 'mannerism' as it derives from Leibniz, born in Leipzig, Germany in 1646 and interpreted by Deleuze (1993). The mannerism might have been experienced as a reassuring feedback loop of self on self confirming a presence, a beingness, an existence. What was the fold reassuring a girl of? Was it to reassure her that she still existed or belonged? Belonged, yet belonged where and to what?

Inspired by Deleuze's book, *The Fold; Leibniz and the Baroque* (1993), we imagine pleats as transdisciplinary forms that can either unfold by extending their spatial reach into the world or

by compressing inward as more and more tightly concealed intricate tucks. Series of pleatings as asymmetric principles (Deleuze, 1994, 106) might move ever more outward from the gut-cradling mannerism into space, hall, school, town, community extending into evermore, far-reaching worlds and the cosmos. The human species can then be imagined as a phylogenetic fold. Phylogenesis comes from the Greek phylon (tribe) and genesis (origin) and 'is the biological process by which a taxon (of any rank) appears' (https://en.wikipedia.org/wiki/Phylogenesis, accessed 09/10/2019). Another series follows increasingly concertina-ed pleats such as those found in semi-porous cell membranes, organs and skin. Holding these series of folds in place is Elizabeth Wilson's (2015) concept of the 'thinking gut', which acts as a fulcrum where series of folds and creases come together and apart.

The broader frame is Deleuze's sense that subjectivity is caught in a crisis of representation and his question of whether or not philosophy can find a way out of the crisis and 'back to the sphere of action' (Hughes, 2011: 86). In our work we strive to break free of discourses that pathologise poor children and young people and which place the blame/responsibility for their lives within a Cartesian, bounded subject. It is here also that we see the power of a transdisciplinary approach as it allows us to escape dualisms such as subject-object, individual-society and allows a fundamental collective concept of the socius (Guattari, 2006) where coming into being is enunciated through assemblages of layers and orders as 'partial levels of existential territorialisation' (Guattari, 2006: 27). This kind of ontology enables us to imagine teen girls fused with, and becoming through the histories of the place where they were growing up.

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In searching for a way out of dualistic impasses, Deleuze (1993) explored folds as ways to complicate, disrupt, and crumple surfaces. Series of folds hint at asymmetrical differentials (the *dx*, in calculus). As folds become larger and larger or smaller and smaller, scales of time and space alter. We can think of repetition as a series of pleats that set in play non-linear time and space. The aim is not to draw on a range of place-based, psycho-dynamic and corporeal-movement folds to explain *why* girls seemed to be stuck in place, but to expand terrains and think about more wild entanglements. It is about asking what more the gut mannerism can illuminate, what more girls can be, and what more communities might become. In her critique of the disciplinary focus of scientific knowledge, Wilson (2015: 171) suggests that 'the social sciences are too monochromatic in their ambitions'. We don't want to settle matter; we want to unsettle matters. Imagining transdisciplinary complicating folds seems like one potential way to rumple, untuck and unpick settled hegemonic monochromatic scales of time, place and corporeality.

Like so many experimentations with transdisciplinarity, new materialism(s), new realities and new ontologies (for example, MacLure, 2013; Ringrose, Warfield and Zarabadi, 2018; Coleman, Page and Palmer, 2019; St. Pierre, 2019) we are striving to replace faith in a transcendence anchored in an extra terrestrial mythology (God) and rational progress with a multiplicity of forces belonging to lively world(s) and cosmologies. We imagine an ever moving and expanding Nietzschian universe where repetition is the eternal return of being, not a return of the identical, but a return that is dissimilar, that agitates, that will not be still. In the speculative forays that follow we hint of pressures above and below surfaces that will not be stilled, of the troubles in the past that have not been reconciled in the life of valleys communities in the present and how

girls 'catch these' corporeally, psychically and in their guts. We also hint of social, political and psychic grounds that shift, subside, compress, rupture and will not settle.

We turn to the choreographer and philosopher, Erin Manning (2013, 2016), to elaborate how a gesture such as a gut-hugging mannerism is multiply folded with compressions and extensions of time, space and matter. These can be imagined as partial existential territorialisations (Guattari, 2006). Not being fed, the gut contraction of hunger or not having enough (money, care, attention) eventually become traumatic. It is in the interstices of corporeal folds, just before a movement, that we can glimpse hesitations, quivers before stuckness and where corporeal seizures of trauma take hold. These are moments of immanence.

Focusing on just one mannerism, the gut-holding gesture becomes an external, vantage point from which to view the conditions of young people's lives, and girls in particular, growing up in post-industrial places. This mannerism is the spring-board that enables us to think with Deleuze, Guattari, Manning and Wilson among others. The gut-cradling gesture is a non-arbitrary point, or chance to imagine how the world might be restored to us/them. Jên Angharad's pedagogic practices, in effect, helped to get the girls moving again (Ivinson and Renold forthcoming). This chapter sits within our wider mission to draw on transdisciplinary thinking to imagine young people as part of a restless, forward political momentum of life. For further details on working with the micro-politics of young people's actions see Renold (2018; 2019; 2020 forthcoming).

The more-than of methodology

During the early phases of what became a longitudinal ethnographic study of young

people and place we conducted over 60 one-to-one interviews and 12 group interviews with young people aged 12-14 years. As the project progressed we generated multi-sensory ethnographic data that could better get at the qualitative multiplicity of the embodied and affective phenomena of lived experience (Ellingson, 2017). This phase of the research involved inviting young people on walking tours (Ivinson and Renold 2013b) and film-making activities, one of which focused on the running body, 'Still Running', and another, the captured body 'Shades of Place' (Ivinson and Renold, 2016). In the phase of the research discussed here, we decided to focus directly on the body.

The secondary (high) school was in a valleys town in south Wales where we had been working on the Young People and Place project[i]. The workshops took place in the last week of the summer term, over four days, when the usual school timetable was suspended. The invitation read, 'If you feel like moving, if you feel like jumping, swaying, running and creating stories with your body, this activity is for you'. 18 girls between the ages of 12-16 years signed up.

Choreographer and dancer, Jên Angharad, who specialises in dance theatre and improvisation, led the workshops. She encouraged people to develop their styles and become empowered by the movement exercised. Over the four days, Jên used a range of exercises to work with the energies and corporeal movements presented by girls and helped them to move into/with the beat of music she chose for each exercise. Although some girls took dance lessons (mostly 'street dance'), the majority were untrained. We participated in some of the exercises to feel with our bodies what the girls were experiencing. In the intervals between sessions, girls often asked us questions and some spoke spontaneously about what they were feeling and we encouraged them to talk using simple probes such as 'how was that?'

By inviting bodies to move, we found that girls opened up physically and psychically. We captured this through video recordings using three small cameras placed in the corners of the hall. After the workshops, we watched video footage many times and sometimes at slow or fast speeds. This revealed patterns of behaviour and micro-dynamics of specific gestures such as the gut-holding gesture (for a more extensive exploration see Ivinson and Renold, forthcoming).

The movement workshops provided the opportunity to create an explicitly embodied, qualitative methodology. We employed a diffractive analysis (Barad, 2007; Haraway, 2008) with a transdisciplinary compass to entangle and read observations, fieldnotes and philosophical concepts of dance and movement through each other speculatively. Next we present three speculative journeys that fold outwards from the gut-holding mannerism: folds of time and place; gender unfolds; and gut reactions.

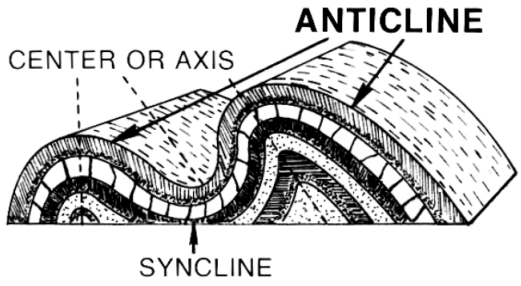
Folds of time and place

The girls' gut-holding gesture cannot be separated from the milieu where they are growing up. There is something intense about working in a place where the collapse of the industrial base has been so catastrophic and where attempts at economic regeneration have been largely unsuccessful.

Valleys communities became global coal mining centres during the Industrial Revolution (between 1870s-1920s). Since the mid 1980s the failure of successive waves of regeneration policies, the increasing neglect of mining communities, and the politics of austerity is backdrop

to the girls' lives. Yet the values of solidarity and close-knit bonds that ensured survival during the harsh and dangerous conditions of industrial mining remain in the psychic landscape (Walkerdine and Jimenez, 2011; Ivinson and Renold, 2013a, 2013b). Holding themselves in place has a specific vibratory resonance given that coal mining is uniquely tied to the geology of place.

In South Wales, coal seams were laid down during the Carboniferous period 298 and 323 million years ago as the earth's surface buckled under tectonic pressure. Coal was created in the syncline folds of the earth as vegetable matter from ancient water logged peat bogs was compressed (Figure 1).



https://en.wikipedia.org/wiki/Syncline, accessed 09/0/2019.
Figure 1 The Syncline

Coal is found in seven valleys that lie on a north to south axis in parallel formation to the south of what is called the Wales-London-Brabant High.

(https://en.wikipedia.org/wiki/Geology_of_South_Wales, accessed 14/04/2019)

Of all the heavy industries mining is, by necessity, placed-based. Gilbert Simondon (2017) suggested that miners develop a specific kind of co-relation with underground nature as intuition, what Beverley Sauer (1998) refers to as 'pit sense':

> He [sic] lives in a kind of co-natural relation with underground nature, and this co-naturalness is so profound that it excludes all other feelings or attachment; the true miner is a subterranean man [sic]; the one who descends into the mine without loving it won't discover this essential co-naturalness (Simondon, 2017: 107).

Accordingly, ways of being, community practices, and forms of survival are deeply entangled with the earth's geology. Intuitive ways of knowing enabled families to brave the dangers of underground mining and to form a protective community matrix (Walkerdine and Jimenez, 2011) of sociality above ground. This sociality underpins Trade Unions and labour movements and was part of the social glue that keeps valleys communities functioning in times of austerity. Sociality can be traced into the visceral stuff of girls' friendships groups (Renold and Ivinson, 2019) that came stuck and unstuck throughout our work with them. The gut-holding mannerism is thus perhaps infused with molar rhythms and fears of being stuck in place, a place which resonates still with patriarchal inequalities exacerbated by the history of harsh labour practices followed by years of austerity.

Gender unfolds

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The value of coal and labour, and whose labour was used to extract coal have gendered histories (Penlington, 2010). In the pre-industrial era whole families undertook mining labour together. In this era children and women hauled coal to the surface and men hewed the rock face (Figure 2).

Figure 2 Woman worker in a coalmine

(https://spartacus-educational.com/CoalIndustry.htm. By John Simkin (john@spartacus-educational.com) © September 1997 (updated August 2017) accessed 09/10/2019)

We have written elsewhere of how the women's working bodies were both reviled and eroticised during the Victorian era (Renold and Ivinson, 2014; 2019). In the period of industrialisation, labour became subordinated to the temporal rhythms of industry. Through a series of Parliamentary Acts, women and children were banned from working in mines and women's labour was confined to life above ground and by necessity became reciprocal to men's labour within patriarchal family structures. Not only did women have to heat water for baths, at times they had to hand-feed men when their hands were injured or suffered muscular cramps through

toiling in hazardous and exhausting conditions (Penlington, 2010). A long tradition of unequal gender labour became more complicated in times of austerity, for it was often women who were able to find jobs outside the mining economy while men were unemployed.

To this day we find legacies of reciprocal and oppositional gender relations among many young people in ex-miming communities (Ivinson and Renold, 2013a). From the first interview phase of the project we learnt much about the highly gendered fears and desires young people associated with urban and rural landscapes. Many girls, for example, talked about the gendered legacies of motherhood and domesticity as a form of 'stuckness' that had been essential for the survival of community life during the industrial era, no longer meaningful to them, yet which continued to haunt them (Ivinson and Renold 2013b):

> I want to get out of here, I don't like it … it's always the same, like, you see people going to work, coming back, cooking dinner and stuff … I don't wanna be just stuck here with like loads of kids and stuff (Rowan, age 12).

In times of austerity, legacies that retain asymmetric gender relations can often become stronger. Some girls spoke of hiding or running from men (Ivinson and Renold, 2013b). They rehearsed stories of rape and sexual assault (Renold and Ivinson 2015). Even if they had not experienced such acts first hand, a visceral sense of the fear of violence has been woven into the psychic fabric of girls' and women's beingness in many ex-mining valleys communities. Many girls also anxiously talked about a feeling of always being watched:

> You've got to worry all the time. You have to watch yourself. You just can't go out, not worrying (Tanya, age 12).

The girls' fears seem to vibrate with resonances of sedimented, polarised and violent gender/sexual relations and structures. We have witnessed first hand, teen girls' anger with such legacies (Renold and Ivinson, 2019). The fall out of the mine closures is a vibratory geo-psychic landscape, exacerbated by a politics of austerity that creates new folds in gender relations.

It is only recently that women in mining communities are beginning to speak out about the hard time of industrial mining and how hard the men were on them (Bright and Ivinson, forthcoming). Men's superior positioning in the family structure created cultures where fathers felt entitled to 'touch' their daughters, exercising a seigneurial male right to possess. Such abuses were kept hidden, unacknowledged, and silence was often violently enforced (Bright, 2018). It was a 'knowing' that everyone knew, yet which could not be spoken of or surfaced (Bright and Ivinson, forthcoming).

Perhaps, then, the gut-cradling mannerism is a protecting hold; one that shields the body from the perpetrator of violence and the gaze of the other.

Gut reactions

Above we suggest how the gut-cradling mannerism can be traced outward into the syncline folds of the ancient earth and into differential gender relations produced by the heavy industry of coal mining. We see how the very nature of the environment infolds with what was once above

ground and what became coal beds below. In this section we speculate about time folds of biological matter, and the blurred boundaries between the inside and outside of organs and bodies.

While the coal beds in south Wales were laid in Carboniferous period 298 and 323 million years ago, the species *Hominina* probably has origins between four to seven million years ago. We can imagine the human species as a phylogenetic fold, composed of carbons, proteins and oxygen. Minerals are taken in by organs and incorporated, exhaled, expelled and modified over time. The human body is a microcosm of life where the automatic processes of chemical and biologic growth and change are shaped within a multiplicity of milieux, making humans bio-cultural creatures. According to Leibniz, 'the subject lives and re-enacts its own embryonic development as a play of folds – 'endo-, meso-, and ectoderm' (Deleuze,1993, xvii). Humans are subjected to a 'very great number of affections' over which they have no control (Hughes, 2011, 81 citing Deleuze, 1992, 219). These are the non-conscious, anatomical processes of the body. These biological activities complicate notions of will, intentionality and thinking.

Wilson (2015) described the gut as a thinking organ. The gut is a super-folded membrane that ingests and digests, which has an inside that is semi-porous, more a pleat than a boundary. The gut is a series of organs that lie below the skin which itself is a clever semi-porous membrane. Digestion and ingestion are not pre-coded processes, they are environmentally constituted and involve the trafficking of molecules, in which proteins, bustle, barge, roll and communicate (Wilson, 2015). The physiology of the cell membranes that make up the gut involves a pleated accumulation of phylogenetic developments (Figure 3).

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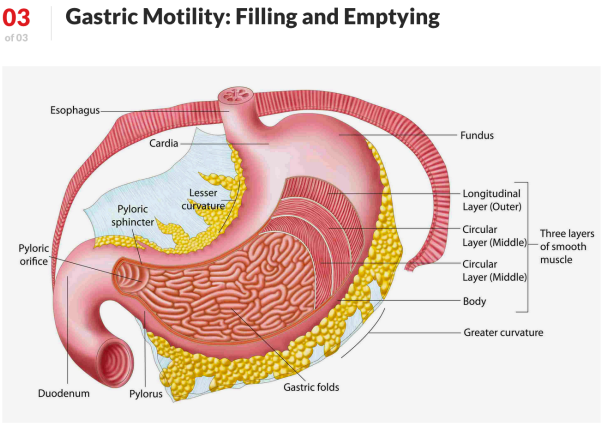

Figure 3 Gastric Folds

https://www.thoughtco.com/anatomy-of-the-stomach-373482 downloaded 03 July 2019

The gastric folds inside the stomach are called rugae. Rugae are large folds in the mucous membrane of internal surface of the organ.

(https://medical-dictionary.thefreedictionary.com/rugae, 2019)

> In the empty state, the stomach is contracted and its mucosa and submucosa are thrown up into distinct folds called rugae; when distended with food, the rugae are 'ironed out' and flat.
>
> (Regina Bailey, 2019)

Throughout our work in the south Wales valleys, food and hunger were tied to the history of precarious employment patterns and social relations (Bruley, 2007). Hunger involves contractions of the stomach wall and changes in blood sugar levels. Parental/carer relationships sometimes ended abruptly and children experienced dramatic changes in their circumstances, suddenly they had to move house, live off less money or look after a grieving relatives. The shift

from having a steady income to claiming benefits was further complicated by the introduction of a new benefits system called Universal Credit, which left families with no money for the first six weeks. When food is precarious young people often crave carbohydrates and sugar as their diet becomes about survival. The unpredictable nature of not having enough to eat is folded into place.

Wilson reminds us that the affective intensity of hunger entails that the belly is psychically alive. Calling on Susan Isaacs, she describes this as the gut being 'phantastically alive – from birth, before birth, and in prehistory. Infant minds emerge from an engagement with this unconscious biological mentation' (Wilson, 2015: 41). Multiple folds of organic substrate relate back to prior histories through which human organs evolved, for example, from primates and even earthworms. The pre-given in biology becomes what she calls a 'phantasy'. She suggests that 'regression folds psychic events (from the present, the individual's past, and prehistory) into the heart of organic substrate' (Wilson, 2015: 56, citing Ferenczi, 1919). Accordingly:

> The action of musculature of the intestines is not that of passive substrate awaiting the animating influence of the unconscious but, rather, that of an interested broker of psychosomatic events (Wilson, 2015: 53).

Wilson proposes that the gut is the centre of a biological unconscious. She argues, 'one of the gut's archaic feats is minding, apprehending, caring' (Wilson, 2015: 44). Her argument rests on bringing to our attention the unconscious communication that takes place between organs and between organs and the world.

> The belly takes shape from what has been ingested (from the world), from its internal neighbors (liver, diaphragm, intestines, kidney), and from bodily posture. This is an organ uniquely positioned, anatomically, to contain what is worldly, what is idiosyncratic, and what is visceral, and to show how such divisions are always being broken down, remade, metabolized, circulated, intensified, and excreted (Wilson, 2015: 43).

Wilson explores the relation between biology and feminist theory, arguing that feminist theory has distanced itself from the biological in a bid to raise awareness about the role of culture in the construction of norms such as masculinity and femininity, and in so doing lost its transdisciplinary potential to not only know 'more' but to know otherwise.

And what might be the gut thinking here in the south Wales valleys? The Welsh artist Nicolas Evans captures the relation between hard labour undertaken underground and the psychic pain of hardship and oppression (Figure 4). This haunting depiction shows colliers crouching in the cramped crevasses of underground mines. Here, pain and hunger are folded into the anatomy of the men's faces and bodies crumpled into foetal positions within the earth womb. We see regression folds of the pre-history of ancient troglodyte people (Simondon, 2017) affectively connected to the earth.

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Figure 4 'Down the pit' by Nicholas Evans, artist born in Aberdare

(Reproduced from slides by Aneurin Jones)

Evans, who left the mines in his early teens after his father died in a mining accident, conjures the underground hauntings, as the trouble (Haraway, 2016) borne of the injustices in the way the mines were brutally closed and the economic and psychic devastation this caused. The girls inherit these historical injustices as an intergenerational legacy manifest, we speculate, in the folds of the gut holding gesture. Sometimes this mannerism is a protective hold, sometimes a reassuring embrace, and sometimes a way to sooth stomach cramps and hunger pangs.

Movement (un)folds: becoming unstuck

The gut-holding mannerism emerged when the girls were standing still. We have speculated that the mannerism could manifest a symbolic projective stuckness, a physiological stuckness and a

psychic stuckness. We sensed a wider affective resistance to opening up with us. Many girls literally could not speak in seated interviews. For some, the interview context seemed to close them down, they seemed to become drained of their sense of autonomy and some girls showed a great reluctance to talk. One girl, Rhian, simply slumped across the desk and became unable to respond to our verbal and visual prompts.

> I dunno. [huge yawn. slumps body over desk]
>
> (Rhian, aged 13)

Our speculation intensified when we compared the interview context with Rhian's vivacious account of gardening with her granddad. As she showed us around the school grounds we came across the school allotments. She came alive as she talked of digging, planting and weeding with her granddad. Clearly she became stuck and unable to speak only in some contexts.

Girls who dared to continue moving and practices childhood habits such as running, biking and climbing mountains became entangled with the historical legacies associated with normative masculinity and so for them, engaging in these activities became increasingly risky or subversive (Renold and Ivinson, 2014). Some told us that they gave up practices such as swimming, rugby, football, biking, skating, dancing and horse riding around the ages of 11 to 12 years because the activities seemed to clash with the normative expectations of teen femininity in the local community.

> I had my own bike but I don't use it. It's just, I dunno, I'm too quiet. It's like, you've gotta get dirty and break bones and everything (Lucy, aged 13).

Being stuck in place such as giving up physical hobbies and standing still is not an absence of movement, it is itself a complex assemblage of beingness, possibly criss-crossed with psychic pain and unconscious legacies of past trauma. As Manning (2014, 43) points our 'standing still' is a difficult posture, it hides a multiplicity of complex muscular efforts required to retain balance. Standing still is an event that is immanent with forces anchored in contrasting fields and existential territories.

Within the school hall Jên created a much-needed place of ontological security and slowly she encouraged the girls to move. As the girls followed the gentle movement exercises we sensed their bodies discovering the power of movement again. Gradually the exercises expanded their/our movement repertoires. Manning writes about how 'rhythm comes to the fore through techniques of invention', drawing on Simondon to suggest:

> Techniques are imbued with rhythm, they move with the machine's own forces of recombination (Manning, 2013: 10)

To create intentional movement requires that we committing ourselves to a motion so that mind, body and intention move as one, which Jên referred to as 'e-motion'. Through the workshops girls came into a newfound sense of purposefulness engendered by joyful affections (Ivinson and Renold, forthcoming).

Futures Folds

Above we have speculated about a series of transdisciplinary pleats as asymmetric principles (Deleuze, 1994: 106). We moved from the geological formations across vast temporal scales of

waves of coal extraction and the appearance of *Hominina*, millions of years ago. In ancient times people mined the earth for minerals possibly using specific kinds intuitive knowing in co-relation with underground nature (Simondon, 2017). We speculate that this kind of transdisciplinary knowing remains as non-spoken feelings and forms of sensing held in communities and that this develop into specific patterns of sociality, bodily movement, and self-relation linked to the geological folds of place. We imagine this as a deep underground vibratory beat.

The forces of culture in terms of capitalism, patriarchy and gender relations swerved the development of mining and disciplined activities into a new beat. Industrialisation created a rupture that separated miner from the activities of mining. We speculate that as factory owners mediated the relation between coal extraction and coal use, a new consciousness, perhaps a more reflective consciousness, was born which can be linked to the rise of Trade Unions movements. Communities' minoritarian (Manning, 2016) tendencies of, for example, solidarities of health care protection, women's domestic labour and socialist political knowledge contributed to the community matrix (Walkerdine and Jimenez, 2011). We speculate that these became minor forces that both unmoored the structural integrity of major forms of industrial practices and contributed to a kind of second skin (Ester Bick, 1968) or Leibniz' ecto-derm of protection and survival in the oppressive working/living/killing/polluting conditions of coal extraction. The reverberations of the harsh brutality of work, the present-absence of male-labour, and the hidden violence men enacted on women, together is the haunting trouble of the past that will not be stilled. We speculate that these engender the rhythmic rockings, tummy-cradlings, self-affirming, gentle embrace of the girls' gut-holding mannerism standing still yet not still on the

ground where too many unacknowledged, gendered and sexual histories vibrate below the surface.

As the girls stood, rocking in a semi-foetal fold of protection, arms wrapped around a thinking gut, mannerism had multiple folds and existential forces coursing through it. The virtual potential of the place could be glimpsed, we suggest, through the movement exercises orchestrated by Jên as she transformed the ground beneath the girls' feet. The music she chose delivered its energy, movement took on a different beat and the space expanded outward, filling the atmosphere and lifting their thoughts into talk. Thus, girls spoke of the need to go fast, to travel far and to be different (Renold, and Ivinson, 2014: 2015).

The micro-politics of becoming calls us to ask what more the girls could become if we think of space, the hall, the school, the town, the community extending evermore outward into far-reaching worlds and the cosmos, if we could think beyond the temporal arrow that points to an inevitable, closed down, end point. For Deleuze, 'immanence is a task with a future dimension' (Colebrook, 2002: 78). If the human species is a phylogenetic fold, so another series of increasingly concertina-ed pleats might unfold and vibrate across the surface of the earth and across gut's manifold to create different milieu for appetites and desires to incubate. In our work, we see hope in desires that open up though movement and art. We have been touched by the never ending labour of care that women show towards others (Bright and Ivinson, forthcoming) and which girls feel, ingest, fear and crave for their own unfolding existences (Renold and Ivinson, 2019).

Wilson argues that for too long, feminist have battling against the Freudian thesis that 'anatomy is destiny' (Wilson 2015: 45). She suggests that, rather than turning away from anatomy, feminists should embrace the potential of transdisciplinary thinking by embracing the anatomical and 'turn towards it more attentively to see what improbable capacities it holds' (*ibid.*). In our work we have been exploring what improbable capacities are locked in the past waiting to unfolded: what virtually, energetico potentialities might emerge from girls' moving bodies? Activities such as breathing, getting hungry, eliminating, falling asleep, and feeling the coming and going of emotions are within us in the micro beats of living, so as Manning (2013) reminds us, we are never without the presence of vital affects.

Just as women hauled coal out of pits as a means of survival and later as a way to find economic independence, so more purposeful corporeal movements can free girls from the social constraints and surveillance they intuitively sense on/in their bodies. For it is in the ceaseless movement of matter (Nietzsche) that we find the proto-possibility of different beats, of futures that do not move with the sedimented rhythms of the past. Boundaries are dissolving and reforming continuously in the minor and molar bio-geological and cultural folds of time. With Leibniz we speculate of a gut-holding mannerism that lives and re-enacts its own embryonic development as a play of endo-, meso- and ecto-dermic transdisciplinary folds of caring and becoming.

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